

ABSTRACT

A METHOD TO TRANSPORT AN INTERNET PACKET AND RELATED NETWORK ELEMENTS

The present invention describes a method for use in a Generic
5 Packet Radio System backbone network to either downstream or upstream transport an internet packet being destined to a terminal from a gateway support node via a serving support node to a radio network controller. The internet packet comprises a header that comprises an address of the terminal. The method comprises for the downstream
10 transportation the steps of:

- transforming the header into a backbone header by the gateway support node; and
- inserting in the backbone header by the gateway support node and the serving support node, respectively, an address of the serving support node and an address of the radio network controller; and
- forwarding the internet packet after each insertion step from the gateway support node via the serving support node to the radio network controller according to a respective address in the backbone
15 header; and
- keeping and reminding the address of the terminal during the forwarding by comprising by the gateway support node in the internet packet an address extension header; and inserting in the address extension header the address of the terminal; and by the radio
20 network controller transforming the backbone header again into the original header format of the internet packet and extracting, after the forwarding, from the address extension header the address of the terminal for insertion of it again in the header and hereby enabling the forwarding of the internet packet to the terminal according to the address of the terminal in the header. The upstream transportation is
25 executed in the opposite direction whereby the different steps being
- keeping and reminding the address of the terminal during the forwarding by comprising by the gateway support node in the internet packet an address extension header; and inserting in the address extension header the address of the terminal; and by the radio
30 network controller transforming the backbone header again into the original header format of the internet packet and extracting, after the forwarding, from the address extension header the address of the terminal for insertion of it again in the header and hereby enabling the forwarding of the internet packet to the terminal according to the address of the terminal in the header. The upstream transportation is executed in the opposite direction whereby the different steps being

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executed during downstream transportation by the gateway support node are now executed during upstream transportation by the radio network controller and vice versa. (Figure 2).